



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/629,579

07/30/2003

Motoshi Yamauchi

OHT-0020

6447

23353

7590

03/22/2005

RADER FISHMAN & GRAUER PLLC  
LION BUILDING  
1233 20TH STREET N.W., SUITE 501  
WASHINGTON, DC 20036

EXAMINER

FERGUSON, MARISSA L

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/629,579

Applicant(s)

YAMAUCHI, MOTOSHI

Examiner

Marissa L. Ferguson

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-16 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/26/03, 10/22/04</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art ("AAPA") in view of Sellers (US Patent 6,437,972).

Regarding claim 1, AAPA teaches a translucent key sheet (element 2, Page 1, Paragraph 0002, Lines 6-8), a plurality of resin key tops (3) arranged on the key sheet (2), the key pad being provided on a substrate (7) on which a circuit component (6) is mounted, the circuit component protruding from a surface of the substrate (Figure 12), and wherein a resin key top of the resin key tops has a flange portion (8) the flange portion outwardly protruding from a lower end side surface of the resin key top (Figure 2). However, he does not explicitly disclose flange portions with a clearance portion for avoiding contact with the circuit component under depression of the resin key tops.

Sellers teaches a keyboard with key tops (32) with flange clearance portions (52, 58 and Figure 2) for avoiding contact under depression. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention as taught by AAPA to replace the key tops thereof with the key tops with flange clearance portions as taught by Sellers, since Sellers teaches less interference in order to generate an appropriate signal.

Regarding claim 2, AAPA teaches a circuit component (6) that is a protrusion protruding from a general surface of a surface of the key sheet (Figure 12).

Regarding claim 3, AAPA teaches an accommodating portion (area surrounding element 6) of the circuit component (6) formed in the key sheet that is a protrusion protruding from a general surface of a surface of the key sheet (Figure 12).

Regarding claims 17-19, AAPA teaches the claimed invention with the exception of clearance portions that are in conformity with an outer configuration, clearances portions are of a configuration in which wall thickness is reduced along a height direction of the portion of the resin key top and wall thickness reduced only in a lower portion along a height direction. Sellers teaches clearance members (58) with outer configurations that confirm with the outer configuration of the interference members (52 and Figure 2) and wherein wall thickness is reduced along a height and lower portion of the resin key tops (Figure 2). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention as taught by AAPA to include clearance members that are in conformity with a configuration and thicknesses reduced along a portion as taught by Sellers, since Sellers teaches that it is advantageous to provide a secure connection and sufficient support.

Regarding claim 20, AAPA teaches wherein the circuit component is an illumination source (Page 2, top paragraph).

### **Allowable Subject Matter**

2. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Claims 9-16 are allowed.

The following is an examiner's statement of reasons for allowance: Regarding claim 4, the prior art does not teach or render obvious wherein an accommodating portion of the circuit component is a leg portion floatingly supporting the resin key top mounting portion of the key sheet so as to be capable of moving toward and away from a substrate surface opposed to the key sheet back surface.

Regarding claims 9 and 13, the prior art does not teach or render obvious a resin relief protrusion formed at an entrance that serves as a boundary between the key top forming portion and the runner portion and protruding from a surface of the cavity, the resin relief protrusion being smaller in width than the entrance and having a molding surface that is convex toward the key top forming portion.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marissa L. Ferguson whose telephone number is (571) 272-2163. The examiner can normally be reached on (M-T) 6:30am-4:00pm and every other (F) 7:30am-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone

Art Unit: 2854

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marissa L Ferguson  
Examiner  
Art Unit 2854

UKT  
\*\*\*

  
REN YAN  
PRIMARY EXAMINER